STATE OF IDAHO
Department of Fish and Game

Joseph C. Greenley, Director

Annual Project Closing Report

UPPER SALMON RIVER
CHINOOK SALMON REARING PONDS

Project No. 88E250331 Contract No. 03-78-M02-41

Period Covered: October 1, 1977 to September 30, 1978

Columbia River Fisheries Development Program

November, 1978

I. Pahsimeroi Rearing Pond (Summer Chinook)

Eyeing and Early Rearing of 1977 Brood Year

Spawn-taking in the fall of 1977 produced 901,410 eggs. A total of 763,810 were shipped to Mackay Hatchery for early rearing. Eye-up success was estimated at 84.7 percent for the season. Very little rearing mortality occurred at Mackay Hatchery.

Pond Rearing and Release of 1977 Brood Year

A total of 501,906 summer chinook fingerlings at 154.0 per pound were transferred from Mackay Hatchery to the Pahsimeroi Rearing Pond during March. The remaining Pahsimeroi stock juveniles were retained at Mackay Hatchery and planted directly into the Pahsimeroi during mid-May.

The pond reared smolts reached 41.0 per pound by May 1. At this time, approximately 105,000 were marked with an adipose fin clip and coded wire tag. A structural collapse, during the marking project created a drop in the dissolved oxygen level in the rearing pond. This resulted in a mortality of nearly 280,000 fish. The total number released from the pond was estimated at 218,000.

The fish stocked directly from Mackay Hatchery during May totaled 289,000. These fish averaged only 60.0 per pound. Both rearing facilities fed an O.M.P. diet, but the Pahsimeroi Pond produced a larger smolt.

Adult Rearing and Fish Collection

Chinook salmon adults were trapped and held at the Idaho Power Company facility through June. Approximately 40 fish were on hand at this time. Due to a facility use conflict, all adults were released and the diversion weir removed from the river by July 1. Throughout the sum and fall, a few adults could be observed in the river. In late September, a spawning ground survey was done on the Pahsimeroi River. This Survey indicated a total of 31 redds. Local ranchers also observed adults in tributary spring areas in the valley. The total run estimate for 1978 was 100 fish. The size of the adults held earlier indicated that most of the returns for this season were 3-ocean fish. No jacks or marked adults were observed.

Decker Rearing Pond (Spring Chinook)

Inactive due to high incidence of eye fluke in the rearing pond.

Prepared by:

Tom Levendofske
Hatchery Superintendent

II. Red River Rearing Pond (Spring Chinook)

Major modifications in operation were instituted at the Red River Rearing Pond after the initial operation year of 1977 produced poor results.

A half inch mesh screen was placed across the inlet structure to reduce the possibility of introducing unwanted fish. The bottom of the pond was leveled and many of the "pot holes" removed. A drain pipe was placed below the outlet structure to facilitate complete drainage since the concrete apron was considerably higher than the pond bottom. Only forth percent as many fingerlings were placed in the pond in 1978 as in 1977. Prior to realizing fish into the pond the total facility was treated with clorine to reduce the possible carryover of last year's disease.

On June 28, Red River Pond received 200,025 chinook fingerlings from Rapid River Hatchery. A total of 1,575 pounds of fish at 127 per pound were released and physically appeared in good condition upon their arrival. This was considerably less than the 501,000 fingerlings received in 1977.

A new pond tender was hired this summer to monitor the pond for four hours every day. Duties consisted of maintaining flows, observing fish conditions, distributing the proper amount of feed daily, and keeping the inlet and outlet screens clear.

After several weeks of operation, I obtained a sample of fish from the pond which were taken directly to Dworshak Hatchery for analysis. Rick Nelson, Hatchery Pathologist, analyzed the fish, both externally and internally, and could find no unusual pathogens. During the entire pond cycle the fish were in excellent physical condition.

The summer was completely opposite of 1977. It was cool most of the time with abundant rain and temperatures never exceeded 60^{o} Fahrenheit.

On September 18, the tagging trailer was placed in operation at the pond. Weather was typical for the month; however, mixed with the rain was also a few snow flakes. The temperature was in the low forties outside and water temperature was in the mid-forties. Due to the cold temperatures, the fish were not feeding well and were very difficult to attract over the net. With other minor complications, and the unavailability of the fish, taggers were not kept supplied with enough fish to keep them busy. After several days of tagging, the facility was shut down on September 20, with only 37,200 fish tagged. This was only 37 percent of the scheduled number, but under the circumstances was as good as could be expected.

The pond was emptied on the 21^{st}. The facility drained substantially better than the previous year. However, an estimated 1,500 fish still remained in depressions about the intake pipe. Several hours were spent netting these fish and dumping them over the end of the pond. I doubt if we lost over 100 fish during the whole operation. Several hours of hand work is required to facilitate better draining of several areas of the pond.

A problem was encountered this season with the intake screen. Since a large volume of water passes through this screen, there become a substantial amount of debris caught on the structure. During the periods of heavy leaf fall the screen can become completely blocked within a period of several hours and the flows effectively cut off. Since the pond tender cannot be expected to go to the channel every few hours day and night, there needs to be some type of modification of the screening structure. There is presently an unused rotary drum screen at the facility which appears capable of being modified into an electrical screen at minimal cost. The Engineering Bureau is aware of the problem and undoubtedly will have a solution for next season.

A copy of the pond tender's daily records is attached.

Prepared by :

Steven A. Hoss
Regional Fishery Biologist

Red River Rearing Pond - 1977

Date	Average H_2O Temp.	LB of Feed per day	Comments	No. Dead fish
June 29	52°	50	Clear sky - No dead fish!	0
June 30	53°	50	70% overcast; slight drizzle	0
July 1	51°	47-1/2	Clear Leaves cleared grate	0
July 2	50°	45.6	Clear and foggy, slight algae formation	1
July 3	50°	45.6	Clear	0
July 4	50°	45.6	Overcast, slight drizzle	0
July 5	50°	45.6	Cloudy and raining	1
July 6	50°	45.6	Cloudy and misty; algae cleared	0
July 7	50°	45.6	Clear; water looks silty	0
July 8	50°	45.6	Overcast; water muddy ? Grate intake	0
July 9	50°	45.6	Clear; water clearing	0
July 10	49°	44.1	Overcast; water murky	0
July 11	50°	45.6	Slight overcast; water clearing	0
July 12	50°	45.6	Clear; bottom algae forming	0
July 13	50°	57	Clear 2:30 PM FREEZER 40° ?up!	0
July 14	50°	57	Clear	0
July 15	50°	57	Clear; 2 decomposed dead fish on outlet screen; power off 6 hours	2

Red River Rearing Pond - 1977

Date	Average H_2O Temp.	LB of Feed per day	Comments	No. Dead fish
July 16	50°	57	Cloudy	0
July 17		57	Cloudy; power off 2 hours	0
July 18	50°	57	Clear; greased & oiled outlet	
July 19	50°	57	Overcast	0
July 20	51°	65	Scattered clouds	1
July 21	53°	69	Clear and hot	1
July 22	54°	70	Clear and hot	2
July 23	56°	74	Clear and hot	6
July 24	58°	75	Clear and hot	1
July 25	60°	76	Clear and hot; slight surface slime	2
July 26	60°	76	Clear and hot, slight surface slime	1
July 27	60°	76	Clear and hot, slight surface slime	4
July 28	60°	76	Clear and hot, slight surface slime	3
July 29	60°	77	Clear and hot, slime clearing	2
July 30	60°	77	Clear and cooler	3
July 31	59°	76	Clear and cooler	0

Red River Rearing Pond - 1977

Date	Average H_2O Temp.	LB of Feed per day	Comments	No. Dead fish
August 1	59°	76	Clear and cooler	1
August 2	60°	77	Clear sky; murky water	2
August 3	60°	76	Clear sky; murky water	0
August 4	60°	118	Clear sky; clearing water	0
August 5	60°	100 (98F=21bs)	Clear sky; clearing & W.L. higher	0
August 6	60°	106	Clear sky; clearing & W.L. higher	0
August 7	60°	112	Clear sky; water clearing	0
August 8	60°	118	Clear sky; water clearing	0
August 9	60°	118	Clear sky; water clearing	0
August 10	58°	116	Overcast; murky water	0
August 11	58°	116	Overcast; murky water	0
August 12			Overcast; murky water	0
August 13	58°	114	Rain, overcast, S.S. slime, murky water	0
August 14	58°	116	Overcast; inlets slowing down	0
August 15	57°	116	Overcast; inlets opened up.	0
August 16	54°	116	Raining; water o.k.	0
August 17	53°	118	Raining; water o.k.	0

Red River Rearing Pond - 1977

Date	Average H_2O Temp.	LB of Feed per day	Comments	No. Dead fish
August 18	52°	118	Overcast; water o.k.	0
August 19	51°	118	Overcast; water o.k.	0
August 20	51°	120	Overcast; water o.k.	0
August 21	52°	120	Overcast; water o.k.	0
August 22	52°	120	Overcast; water o.k.	0
August 23	51°	118	Foggy; water o.k.	0
August 24	50°	118	Foggy; water o.k.	0
August 25	49°	118	Overcast; water o.k.	0
August 26	50°	118	Overcast; water o.k.	0
August 27	52°	118	Clear; water o.k.	0
August 28	51°	118	Clear; water o.k.	0
August 29	51°	118	Clear; water o.k.	0
August 30				
August 31	50°	118	Clear; water o.k.	0
September 1	50°	118	Clear sky; water o.k.	0
September 2	50°	120	Clear sky; water o.k.	0
September 3	52°?	118	Scattered; water o.k.	0

Red River Rearing Pond - 1977

Date	Average H_2O Temp.	LB of Feed per day	Comments	No. Dead Fish
September 4	53°?	121	Scattered; water o.k.	0
September 5	?	121	Raining; water o.k.	0
September 6	54°	121	Raining; water o.k.	0
September 7	52°?	125	Raining; water o.k.	0
September 8	42°?	125	Scattered C.; water 5" low	0
September 9	50°	125	Clear sky; water o.k.	0
September 10	49°	125	Cloudy and rain; water o.k.	0
September 11	48°	125	Cloudy and rain; water o.k.	0
September 12	48°	125	Cloudy and rain; water o.k.	0
September 13	47°	125	Cloudy and rain; water o.k.	0
September 14	48°	120	Cloudy F. slow to feed; water o.k.	0
September 15	48°	120	Cloudy F. slow to feed; water o.k.	0
September 16	47°	125	Cloudy F. slow to feed; water o.k.	0
September 17			Cleaned Intake	